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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/735,107 | 12/12/2003 | Sophia W. Kao | RZMI-P318 | 1887 |
| 32986 | 7590 | 07/26/2006 | EXAMINER | |
| IPSG, P.C. P.O. BOX 700640 SAN JOSE, CA 95170-0640 | | | RUTZ, JARED IAN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2187 | |

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/735,107 | Applicant(s) KAO ET AL. | |
| | Examiner Jared I. Rutz | Art Unit 2187 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-17 is/are allowed.
- 6) ☒ Claim(s) 2 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 as originally filed are pending in the instant application. Of these, there are 3 independent claims and 18 dependent claims.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 2** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "*substantially*" in claim 2 is a relative term which renders the claim indefinite. The term "*substantially static random access memory*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
4. **Claim 21** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 21 recites 35 USC 112 sixth paragraph "means for" language. The examiner is unable to determine what disclosed structure provides the corresponding means for performing the recited function for the following claim limitations: "*a means for constructing a plurality of keys*", "*a means for determining if a system is in a shared mode*", "*a means for sharing a plurality of hash functions*", "*a*

means for hard configuring the hash functions for the entry of the memory bank”, and “a means for determining a precedence from among the one or more match indications”.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 18-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 18 appears to be directed to the abstract algorithm of searching a table, and does not provide a useful, concrete, and tangible result of said search. As such, claim 18 is not limited to statutory subject matter. Claims 19 and 20 do not remedy the deficiency of claim 18, and are rejected on the same grounds as claim 18.

Allowable Subject Matter

7. **Claims 1 and 3-17** are allowed over the prior art.

8. **Claim 1** recites the limitation “*a plurality of hash function blocks, wherein each hash function block is configured to receive at least two of the masked keys and to provide at least three hash function outputs*”. This limitation is taught by the specification at paragraph 0020 lines 5-9. This limitation in combination with the other limitations of claim 1 is not taught or suggested by the prior art of record.

9. **Claims 3-17** depend from claim 1, and are considered allowable for at least the same reasons as claim 1.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Cheriton (US 7,002,965) teaches masking data extracted from a packet to generating a key to be hashed to perform a table lookup, column 6 line 43 to column 7 line 21, but does not teach or suggest *"a plurality of hash function blocks, wherein each hash function block is configured to receive at least two of the masked keys and to provide at least three hash function outputs"* as recited by claim 1.
- b. Colliff et al. (US 5,530,834) teaches using multiple hash function blocks to address multiple locations in multiple memory banks, column 3 lines 25-49, but does not teach or suggest *"a plurality of hash function blocks, wherein each hash function block is configured to receive at least two of the masked keys and to provide at least three hash function outputs"* as recited by claim 1.
- c. Hunter et al. (US 6,223,172) teaches the use of a CRC function to hash a masked key search key for use in a longest match search, but does not teach or suggest *"a plurality of hash function blocks, wherein each hash function block is configured to receive at least two of the masked keys and to provide at least three hash function outputs"* as recited by claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared I. Rutz whose telephone number is (571) 272-5535. The examiner can normally be reached on M-F 8:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Brian R. Peugh
Primary Examiner

Jared I Rutz
Examiner
Art Unit 2187

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